I CLAIM:

1. A vacuum relief device adapted to permit atmospheric air to enter a liquid containing reservoir to reduce vacuum developed in the reservoir,

the device comprising:

an enclosed chamber having an air inlet and a liquid inlet,

the air inlet in communication with air at atmospheric pressure,

the liquid inlet in communication with liquid in the reservoir,

the liquid inlet open to the chamber at a height which is below a height at which the air inlet is open to the chamber.

2. In combination, an enclosed, liquid container reservoir and a vacuum relief device

the reservoir having a reservoir outlet from which liquid is to be dispensed and within which reservoir a vacuum below atmospheric pressure is developed on dispensing liquid from the reservoir outlet,

the vacuum relief device is adapted to permit atmospheric air to enter the reservoir to reduce any vacuum developed in the reservoir,

the vacuum relief device comprising an enclosed chamber having an air inlet and a liquid inlet,

the liquid open to the chamber at a height, which is below a height at which the air inlet is open to the chamber,

the air inlet in communication with air at atmospheric pressure such that the chamber is at atmospheric pressure,

the liquid inlet connected by via a liquid passageway with liquid in the reservoir,

the liquid inlet at a height below a height of liquid in the reservoir such that when pressure in the reservoir is atmospheric pressure, due to gravity the liquid from the reservoir fills the liquid passageway and, via the liquid passageway, fills the chamber to a height above the height of the liquid inlet and below the height of the air inlet, and

wherein on dispensing liquid from the reservoir outlet increasing vacuum below atmospheric in the reservoir, the height of liquid in the chamber decreases until the height of liquid is below the height of the liquid inlet and the liquid inlet is open to air in the chamber such that air in the chamber flows under gravity upward through the liquid passageway to the reservoir to decrease vacuum in the reservoir.

3. A combination as claimed in claim 2 wherein the reservoir is a rigid non-collapsible container.

4. A combination as claimed in claim 2 including a valve movable to open and close the liquid passageway.

5. A combination as claimed in claim 2 including an air passageway from the air inlet to an air opening to the atmosphere, wherein on increasing pressure above atmospheric pressure in the reservoir the height of liquid in the chamber increases until the height of the liquid is above the height of the air inlet and the air inlet is open to liquid in the chamber such that liquid in the chamber flows through the air passageway to exit from the air opening.

6. A combination as claimed in claim 5 including a valve movable to open and close the air passageway.

7. A combination as claimed in claim 5 wherein the reservoir is a rigid non-collapsible container.

8. A combination as claimed in claim 5 wherein the reservoir is a resiliently deformable container, which has an inherent bias to re-assume an inherent shape having an inherent internal volume after being deformed to shapes different than the inherent shape and having volumes less than the inherent volume.

9. A combination as claimed in claim 2 including an air passageway from the air opening open to the atmosphere, wherein with increased pressure above atmospheric pressure in the reservoir the height of liquid in the chamber increases until the height of liquid is above the height of the air inlet and the air inlet is open to liquid in the chamber such that liquid in the chamber flows through the air passageway to exit from the air opening,

the reservoir being a resiliently deformable container with an inherent shape having an inherent internal volume,

the container being resilient such that after being deformed by forces forcing the container to assume shapes different than its inherent shape and having volumes less than the inherent volume, on release from such forces the resiliency of the container biases the container toward reassuming its inherent shape and creating a vacuum in the container,

when the container is deformed to the shapes different than the inherent shape creating the pressure in the container increasing above the atmospheric to cause liquid to flow out of the container.

10. A combination as claimed in claim 4 wherein the chamber is defined within a vessel having side walls, a top wall and a bottom wall,

the air passageway is within an air tube extending from an opening in the bottom wall upwardly within the chamber towards the top wall to an upper end of the air tube which comprises the air inlet,

the liquid passageway is within a liquid tube extending from an opening in the top wall downwardly within the chamber towards the bottom wall to a lower end of the liquid tube which comprises the liquid inlet.

11. A combination as claimed in claim 10 wherein

a base element comprises the bottom wall and the holding tube,

a cap element comprises the top wall and liquid tube,

the cap element and base element coupled together to form the vessel,

the cap element and base element are movable relative each other between a closed position in which the base element engages the cap element to close the liquid passageway preventing fluid flow there through and an open position in which the base element does not close the liquid passageway.

12. A combination as claimed in claim 11 wherein in the closed position the base element engages the cap element to close the air passageway preventing fluid flow there through and in the open position the base element does not close the air passageway.

13. A combination as claimed in claim 10 wherein each of the cap element comprise an inner portion of the side wall and the base element comprise an outer portion of the side wall, one of the inner and outer portions of the side wall received within the other portion in fluid sealed relation for relative movement inwardly and outwardly between the open position and the closed position.

14. A combination as claimed in claim 4 including a vessel having side walls, a top wall and a bottom wall,

a holding tube extending from the bottom wall upwardly within the vessel towards the top wall to an upper end of the holding tube which comprises the air inlet,

the holding tube defining the chamber therein,

an air passage between the holding tube and the side walls extending from the bottom wall to the top wall,

an opening open to atmosphere at a height below the air inlet through the bottom wall or the side wall into the air passage between the holding tube and the side walls,

the liquid passageway defined within a liquid tube extending from an opening in the top wall downwardly within the chamber towards the bottom wall into the holding tube to a lower end of the liquid tube which comprises the liquid inlet with a transfer passage between the holding tube and liquid tube for fluid passage between the air inlet and the liquid inlet.

15. A combination as claimed in claim 14 wherein the liquid tube is coaxially located within the air tube with the transfer passage comprising an annular passage radially there between.

16. A combination as claimed in claim 15 wherein the air tube is coaxially located within the side walls with the air passage comprising an annular passage radially there between.

17. A combination as claimed in claim 16 wherein
a base element comprises the bottom wall and the holding tube,
a cap element comprises the top wall and the liquid tube,
the cap element and base element coupled together to form the vessel.

18. A combination as claimed in claim 17 wherein the cap element and base element are movable relative each other between a closed position in which the base element engages the cap element to close the liquid tube preventing liquid flow there through and an open position in which the base element does not close the liquid tube.

19. A combination as claimed in claim 18 wherein in the closed position the base element engages the cap element to close the air passageway preventing fluid flow there through and in the open position the base element does not close the air passageway.

20. A combination as claimed in claim 18 wherein each of the cap element comprise an inner portion of the side wall and the base element comprise an outer portion of the side wall, one of the inner and outer portions of the side wall received within the other portion in fluid sealed relation for relative movement inwardly and outwardly between the open position and the closed position.

21. A combination as claimed in claim 17 wherein the cap element and base element are each an integral element formed by injection moulding.

22. A combination as claimed in claim 14 including a dispensing outlet from the holding tube at a height below the height of the liquid inlet.

23. A combination as claimed in claim 22 including a pump connected to the dispensing outlet and operable to draw liquid from the reservoir via the liquid tube and holding tube.

24. In combination, an enclosed liquid container reservoir, a pump and a vacuum relief device,

the reservoir having a dispensing outlet and a liquid outlet and within which reservoir a vacuum below atmospheric pressure is developed on drawing liquid from the reservoir via the dispensing outlet,

the dispensing outlet connected with the pump which is operable to draw liquid from the reservoir via the dispensing outlet,

the vacuum relief device is adapted to permit atmospheric air to enter the reservoir via the liquid outlet to reduce any vacuum developed in the reservoir,

the vacuum relief device comprising an enclosed chamber having an air inlet and a liquid inlet,

the liquid inlet open to the chamber at a height which is below a height at which the air inlet is open to the chamber,

the air inlet in communication with the air at atmospheric pressure such that the chamber is at atmospheric pressure.

the liquid inlet connected by via a liquid passageway with the liquid outlet,

the liquid inlet at a height below the height of liquid in the reservoir such that when there is atmospheric pressure in the reservoir under gravity the liquid from the reservoir fills the liquid passageway and, via the liquid passageway, fills the chamber to a height above the height of the liquid inlet and below the height of the air inlet, and

wherein when operation of the pump dispenses liquid out the dispensing outlet and creates increasing vacuum below atmospheric in the reservoir, the height of liquid in the chamber decreases until the height of liquid is below the height of the liquid inlet and the liquid inlet is open to air in the chamber such that air in the chamber flows under gravity upward through the liquid passageway to the reservoir to decrease vacuum in the reservoir.

25. In combination, an enclosed, liquid containing reservoir and a vacuum relief device and a pump,

the reservoir having a reservoir outlet and within which reservoir a vacuum below atmospheric pressure is developed on drawing liquid from the reservoir via the outlet, and

the vacuum relief device is adapted to permit atmospheric air to enter the reservoir to reduce any vacuum developed in the reservoir,

the vacuum relied device comprising an enclosed chamber having an air inlet and a liquid inlet,

the liquid inlet open to the chamber at a height, which is below a height at which the air inlet is open to the chamber,

the air inlet in communication with air at atmospheric pressure such that the chamber is at atmospheric pressure,

the liquid inlet connected by via a liquid passageway with the reservoir outlet,

the liquid inlet at a height below a height of liquid in the reservoir such that when there is atmospheric pressure in the reservoir under gravity, the liquid from the reservoir fills the liquid passageway and, via the liquid passageway, fills the chamber to a height above the height of the liquid inlet and below the height of the air inlet, and wherein with increased vacuum below atmospheric in the reservoir the height of liquid in the chamber decreases until the height of liquid is below the height of the liquid inlet and the liquid inlet is open to air in the chamber such that air in the chamber flows under gravity upward through the liquid passageway to the reservoir to decrease vacuum in the reservoir,

a liquid outlet from the chamber open to the chamber at a height below the height of the liquid inlet,

a feed passageway connecting the liquid outlet with the pump, the pump being operable to draw liquid from the chamber via the liquid outlet and dispense it via a dispensing passageway to a dispensing outlet open to atmospheric pressure,

the dispensing passageway in extending from the pump to the dispensing outlet rising to a height above the height of the liquid inlet such that liquid in the dispensing passageway will, when the pump is not operating, assume a height in the dispensing passageway which is the same as the height in the chamber and below the height of the dispensing outlet to prevent flow of liquid due to gravity from the chamber out of the dispensing outlet.

26. A combination as claimed in claim 25 wherein the liquid has a viscosity of 1.5 or less.

27. A combination as claimed in claim 26 wherein the liquid is an alcohol based cleaning or disinfecting liquid.

28. A liquid dispenser comprising:

a resilient, enclosed container enclosed but for having at one end of the container a neck open at a container outlet opening,

a cap having an end wall and a side wall extending from the end wall to a remote portion of the side wall,

a cap outlet opening through the side wall,

the cap received on the neck with the neck extending into the cap,

the remote portion of the cap about the neck engaging the neck to form fluid impermeable seal therewith,

a passageway defined between the neck and the side wall of the cap outwardly of the neck and inwardly of the side wall open to both the container outlet opening and the cap outlet opening,

wherein when the container is in an inverted position with the neck located below the remainder of the container, the container outlet opening is at a height which is below a height of the cap outlet opening.

29. A liquid dispenser as claimed in claim 28 wherein the container is resiliently deformable with an inherent shape having an inherent internal volume,

the container being resilient such that after being deformed by forces forcing the container to assume shapes different than its inherent shape and having volumes less than the inherent volume, on release from such forces the resiliency of the container biases the container toward reassuming its inherent shape and creating a vacuum in the container,

when the container, in the inverted position, is deformed to the shapes different than the inherent shape than liquid in the container is forced to flow out of the container via the container outlet opening through the passageway and out the cap outlet opening,

when a vacuum exists in the container with the container in an inverted position liquid in the cap is drawn back into the container until the height of liquid in the cap is below to the height of the container outlet opening and container outlet opening is open to air in the cap such that air in the cap flows under gravity upward through the neck into the container to decrease vacuum in the container,

the container outlet opening at a height below a height of liquid in the container such that when pressure in the container is atmospheric pressure, due to gravity the liquid from the container fills the neck and passageway to a height above the height of the container outlet opening and below the height of the cap outlet opening.

30. A combination as claimed in claim 28 wherein the cap is movable relative the neck between a closed position in which the cap prevents fluid flow through the passageway and an open position in which the passageway is open to fluid flow.

31. A combination as claimed in claim 30 wherein in the closed position the end wall of the cap engages the neck to close the container outlet opening preventing fluid flow there through and in the open position the end wall is spaced away from the container outlet opening.

32. A combination as claimed in claim 31 wherein the side wall of the cap is disposed coaxially about the neck and the cap is axially movable relative the neck between the open position and the closed position.

33. A liquid dispenser comprising:

an enclosed non-collapsible container enclosed but for having at one end of the container a neck open at a container outlet opening,

a dispensing plug received in the container outlet opening comprising a piston chamber forming element defining an outwardly opening cylindrical chamber with a piston member slidably received therein for reciprocal sliding to dispense liquid from the container and in dispensing liquid create a vacuum within the container,

a vacuum relief device carried on the dispensing plug adapted to permit atmospheric air to enter the container to reduce any vacuum developed in the container,

the vacuum relief device comprising an enclosed chamber having an air inlet and a liquid inlet,

the liquid inlet open to the chamber at a height, which is below a height at which the air inlet is open to the chamber,

the air inlet in communication through the dispensing plug with air at atmospheric pressure such that the chamber is at atmospheric pressure,

the liquid inlet connected by via a liquid passageway with liquid in the container,

the liquid inlet at a height below a height of liquid in the container such that when pressure in the container is atmospheric pressure, due to gravity the liquid from the container fills the liquid passageway and, via the liquid passageway, fills the chamber to a height above the height of the liquid inlet and below the height of the air inlet, and

wherein on dispensing liquid from the container increases vacuum below atmospheric in the container, the height of liquid in the chamber decreases until the height of liquid is below the height of the liquid inlet and the liquid inlet is open to air in the chamber such that air in the chamber flows under gravity upward through the liquid passageway to the container to decrease vacuum in the reservoir.

34. A liquid dispenser as claimed in claim 33 wherein the piston forming element having axially inwardly of the piston chamber a vessel having a bottom wall, a cylindrical side wall and an top wall,

a holding tube extending from the bottom wall upwardly within the vessel towards the top wall to an upper end of the holding tube which comprises the air inlet,

the holding tube defining the chamber therein,

an air passage between the holding tube and the side wall extending from the bottom wall to the top wall,

an opening open to atmosphere at a height below the air inlet through the bottom wall or the side wall into the air passage between the holding tube and the side walls,

the liquid passageway defined within a liquid tube extending from an opening in the top wall downwardly within the chamber towards the bottom wall into the holding tube to a lower end of the liquid tube which comprises the liquid inlet with a transfer passage between the holding tube and liquid tube for fluid passage formed between the air inlet and the liquid inlet.

35. A liquid dispenser comprising:

a resilient, enclosed container enclosed but for having at one end of the container a neck open at a container outlet opening,

a cap having an end wall and a side wall of extending upwardly from the end wall to a remote portion of the side wall,

a cap outlet opening through the side wall,

the cap received on the neck with the neck extending into the cap,

the remote portion of the cap about the neck engaging the neck to form fluid impermeable seal therewith,

a passageway defined between the neck and the side wall of the cap outwardly of the neck and inwardly of the side wall open to both the container outlet opening and the cap outlet opening,

wherein when the container is in an inverted position with the neck located below the remainder of the container, the container outlet opening is at a height which is below a height of the cap outlet opening,

the side wall of the cap being disposed about an axis,

the container outlet opening disposed coaxially within the side wall of the cap,

an impeller disposed in the cap above the end wall of the cap and at least partially below the container outlet opening journalled for rotation about the axis,

the impeller adapted on rotation to receive fluid above the impeller from the container outlet opening and to direct liquid radially outwardly into the passageway such that rotation of the impeller forces fluid into the passageway raising the level of fluid in the passageway to a height above the height of the cap outlet opening such that fluid flows out of the cap outlet opening,

the impeller when not rotating not preventing air flow from the cap outlet opening to the container outlet opening.

36. A liquid dispenser as claimed in claim 35 wherein the impeller when not rotating not preventing air flow or fluid flow between the container and cap.

37. A liquid dispenser as claimed in claim 35 wherein the impeller forms with the cap and container neck a centrifugal pump to direct fluid from the container outlet opening radially into the passageway.

38. A liquid dispenser as claimed in claim 37 wherein the cap is circular in cross-section about the axis, the neck of the container is circular in cross-section about the axis, and

the passageway is annular about the axis.

39. A liquid dispenser as claimed in claim 35 wherein the impeller has a radial extent not substantially less than a radial extent of the container outlet opening.

40. A liquid dispenser as claimed in claim 35 wherein the impeller has a radial extent at least equal to a radial extent of the container outlet opening.

41. A liquid dispenser as claimed in claim 35 wherein the side wall of the cap has a lower cylindrical portion of a radius marginally greater than a radial extent of the impeller.

42. A liquid dispenser as claimed in claim 41 wherein the neck of the container has a lower cylindrical portion ending at the container outlet opening of a radius substantially the same as the radius of the lower cylindrical portion of the cap.

43. A liquid dispenser as claimed in claim 41 wherein the side wall of the cap opens upwardly from the lower cylindrical portion as a frustoconical portion.

44. A liquid dispenser as claimed in claim 35 wherein the container is resiliently deformable with an inherent shape having an inherent internal volume,

the container being resilient such that after being deformed by forces forcing the container to assume shapes different than its inherent shape and having volumes less than the inherent volume, on release from such forces, the resiliency of the container biases the container toward reassuming its inherent shape and creating a vacuum in the container,

when the container, in the inverted position, is deformed to the shapes different than the inherent shape, then liquid in the container is forced to flow out of the container via the container outlet opening through the passageway and out the cap outlet opening,

when a vacuum exists in the container with the container in an inverted position, liquid in the cap is drawn back into the container until the height of liquid in the cap is below the height of the container outlet opening and the container outlet opening is open to air in the cap such that air in the cap flows under gravity upward through the neck into the container to decrease vacuum in the container,

the container outlet opening at a height below a height of liquid in the container such that when pressure in the container is atmospheric pressure, due to gravity, the liquid from the container fills the neck and passageway to a height above the height of the container outlet opening and below the height of the cap outlet opening.

45. A liquid dispenser as claimed in claim 35 wherein the cap is movable relative the neck between a closed position in which the cap prevents fluid flow through the passageway and an open position in which the passageway is open to fluid flow.

46. A liquid dispenser as claimed in claim 45 wherein in the closed position, the end wall of the cap engages the neck to close the container outlet opening preventing fluid flow there through and, in the open position, the end wall is spaced away from the container outlet opening.

47. A liquid dispenser as claimed in claim 46 wherein the side wall of the cap is disposed coaxially about the neck and the cap is axially movable relative the neck between the open position and the closed position.

48. A liquid dispenser as claimed in claim 35 including a motor operatively coupled to the impeller,

the motor located below the end wall of the cap,

a rotatable shaft coaxial with the axis passing in a sealed relation through the end wall of the cap and coupled at a lower end to the motor and at an upper end to the impeller.

49. A liquid dispenser as claimed in claim 35 wherein the cap further includes a support portion extending downwardly to support surfaces to engage a planar work surface to support the dispenser in a vertical position for use in dispensing.

50. A liquid dispenser as claimed in claim 49 wherein the cap further includes a support portion extending downwardly to support surfaces to engage a planar work surface to support the dispenser in a vertical position for use in dispensing, and

a chamber is defined below the base of the cap within the support portion, the motor received within the chamber,

51. A liquid dispenser as claimed in claim 49 wherein the motor is an electric motor, and batteries for powering the motor are received in the chamber.

52. A liquid dispenser as claimed in claim 35 including a motor operatively coupled to rotate the impeller when activated, and a switch mechanism to activate the motor, and

wherein liquid may be dispensed by either rotation of the impeller on activation of the motor or by manually compressing the container.

53. A liquid dispenser as claimed in claim 52 including a mechanism for manual engagement to compress the container selected from one of a lever having a first portion which bears on a side surface of the container and a second portion available to be manually moved so as to urge the first portion to compress the side surface of the container and reduce the internal volume, and

a resilient bulbous portion forming a portion of a side wall of the container for manual deformation to reduce the internal volume of the container.

54. A liquid dispenser comprising:

an enclosed resilient container enclosed but for having at one lower end of the container a neck open at a container outlet opening,

the container outlet opening in sealed communication with a chamber forming element defining a chamber,

the chamber having an air inlet and a liquid inlet,

the liquid inlet open to the chamber at a height which is below a height at which the air inlet is open to the chamber,

the air inlet in communication with air at atmospheric pressure such that the chamber is at atmospheric pressure,

the liquid inlet connected via a liquid passageway with liquid in the container,

the liquid inlet at a height below a height of liquid in the container such that when pressure in the container is atmospheric pressure, due to gravity, the liquid from the container fills the liquid passageway and, via the liquid passageway, fills the chamber to a height above the height of the liquid inlet and below the height of the air inlet, and wherein on dispensing liquid from the container increases vacuum below atmospheric in the container, the height of liquid in the chamber decreases until the height of liquid is below the height of the liquid inlet and the liquid inlet is open to air in the chamber such that air in the chamber flows under gravity upward through the liquid passageway to the container to decrease vacuum in the reservoir,

an impeller rotatably received therein for rotation to draw liquid via the liquid passageway from the container and raise the height of liquid in the chamber above the height of the air inlet.

55. A liquid dispenser as claimed in claim 35 including a motor magnetically coupled to the impeller to rotate the impeller.

56. A liquid dispenser as claimed in claim 54 wherein the impeller when not rotating does not impede flow of air or liquid therepast.

57. A liquid dispenser as claimed in claim 56 wherein liquid in the dispenser may be dispensed by either compression of the container to reduce its volume or rotation of the impeller.

58. A liquid dispenser comprising:

a resilient, enclosed container enclosed but for having at one end of the container a neck open at a container outlet opening,

a cap having an end wall and a side wall extending upwardly from the end wall to a remote portion of the side wall,

a cap outlet opening through the side wall,

the cap received on the neck with the neck extending into the cap,

the remote portion of the cap about the neck engaging the neck to form fluid impermeable seal therewith,

a passageway defined between the neck and the side wall of the cap outwardly of the neck and inwardly of the side wall open to both the container outlet opening and the cap outlet opening,

the side wall of the cap being disposed about an axis,

the container outlet opening disposed coaxially within the side wall of the cap,

an impeller disposed in the cap above the end wall of the cap and at least partially below the container outlet opening journalled for rotation about the axis,

the impeller adapted on rotation to receive fluid above the impeller from the container outlet opening and to direct liquid radially outwardly into the passageway such that rotation of the impeller forces fluid into the passageway and out of the cap outlet opening.

59. A liquid dispenser as claimed in claim 58 wherein the cap is received on the neck for axial movement between an open position and a closed position,

in the closed position, the neck about the container outlet opening engages the side wall of the cap to prevent communication from the container outlet opening and the passageway,

in the open position, the neck about the container outlet opening is spaced from the side wall of the cap providing communication from the container outlet opening to the passageway.

60. An automated fluid dispenser comprising:

an electric motor,

a battery,

an electronic control circuit, and

an electromagnetic radiation sensing and/or receiving device,

wherein operation of the motor dispenses fluid from the fluid dispenser,

the control device controlling the supply of power from the battery to the motor and controlling the operation of the sensing and/or receiving device;

the motor, battery, control board and the sensing and/or receiving device comprising an integral modular electric unit removable for replacement with an identical unit.

61. A dispenser as claimed in claim 60 wherein the modular electric unit comprises all electrical interconnections required for the interconnection of the motor, battery, control circuit and sensing and/or receiving devices.

62 A dispenser as claimed in claim 62 wherein the modular electric unit maintains all electrical interconnections within in a sealed fluid impermeable containment barrier.

63. A dispenser as claimed in claim 62 including a motor shaft extending from the modular electric unit for coupling to an impeller to be driven by the motor.

64. A dispenser as claimed in claim 63 wherein the dispenser including a base housing with an internal cavity to receive the modular electric unit therein.

65. A dispenser a claimed in claim 64 wherein the motor shaft extends through an opening in the base housing from the internal cavity.

66. A dispenser as claimed in claim 60 including an aperture provided through the base housing through which the sensing and/or receiving device is operative and which apertures locate the sensing and/or receiving devices in proximity to a nozzle from which fluid is dispensed from the dispenser.

67. A dispenser as claimed in claim 60 wherein the sensing and/or receiving device is carried on the control circuit.

68. A method of dispensing fluid from a container, the container having a base, side walls extending upwardly from the base and an exit opening at a height above the base,

the method comprising:

providing fluid in the container at a height below the exit opening,

providing an impeller in the container rotatable about an axis to discharge fluid impinging on the impeller so as to cause flow of the fluid in the container which raises fluid in the container to a height of the exit opening such that fluid above the exit opening exits the container via the exit opening.

69. A method as claimed in claim 68 wherein the impeller creates a standing wave or vortex directing fluid radially outwardly into the side walls and up the side walls.

70. A method as claimed in claim 61 wherein the side wall is generally circular and disposed generally vertically about the axis about which the impeller is rotatable.

71. A method as claimed in claim 70 wherein the container including an annular interior wall spaced inwardly from the side wall forming an annular passageway between the side wall and the annular interior wall extending upwardly to the opening,

the annular passageway open at a lower annular opening both downwardly and radially inwardly into the container,

the impeller directing fluid flow into the lower annular opening to raise the height of fluid in the annular passageway to a height above the height of the exit opening.

72. A method as claimed in claim 68 including replenishing fluid into the container from a reservoir vertically above the container.

73. A method as claimed in claim 68 wherein the motor is operated continuously to maintain a standing wave in the container and to dispense additional fluid from the container, and the speed of the motor is increased to increase the height of the wave.

74. A method as claimed in claim 68 wherein the height of fluid in the container is controlled by a pressure relief valve which restricts flow of fluid from a reservoir above the container.

75. A method as claimed in claim 70 wherein the motor is operated continuously to maintain a standing vortex in the container and wherein to dispense additional fluid from the container, the speed of the motor is increased to increase the height of the standing vortex.